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July 9, 2012

Reference No. 056394-06

Ms. Sheila Desai
Remedial Project Manager
United States Environmental Protection Agency - Region 5
77 West Jackson Boulevard (SR - 6J)
Chicago, Illinois 60604 - 3590

Dear Ms. Desai:

Re: Responses to U.S. EPA Comments
Work Plan for Additional Remedial Investigation Activities
Former Plainwell, Inc. Mill Property Operable Unit No. 7
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Allegan and Kalamazoo County

Conestoga-Rovers & Associates (CRA) has prepared this letter, on behalf of the Weyerhaeuser Company (Weyerhaeuser), in response to the June 7, 2012 United States Environmental Protection Agency's (U.S. EPA's) comments on the Work Plan for Additional Remedial Investigation Activities (Work Plan) for the former Plainwell, Inc. Mill Property (Site), which was submitted to the U.S. EPA Region 5 on May 7, 2012.

On April 20, 2012, Weyerhaeuser submitted a revised RI Report in response to U.S. EPA comments on the RI Report, dated February 17, 2012 and U.S. EPA's November 23, 2011 comments associated with the Human Health Risk Assessment (HHRA) and Screening Level Ecological Assessment (SLERA) portions of the RI and on a subsequent memorandum, entitled *Proposed Modifications to Human Health and Ecological Risk Assessments, Remedial Investigation Report, Former Plainwell, Inc. Mill Property, Plainwell, Michigan*, which was submitted to U.S. EPA on November 9, 2011. The revised RI Report was submitted in accordance with the RI/Feasibility Study (FS) Work Plan dated July 2009, the Multi-Area Quality Assurance Project Plan (QAPP) dated September 23, 2009, the Multi-Area Field Sampling Plan (FSP) dated November 2009, the Phase II RI Work Plan dated November 2009, the Statement of Work (SOW) for the RI/FS, and the terms of the Consent Decree for the Design and Implementation of Certain Response Actions at Operable Unit #4 and the Plainwell, Inc Mill Property of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Consent Decree), which became effective February 22, 2005. The revised RI Report provided recommendations for additional activities to be completed at the Site, which were included in the Work Plan that was prepared to address data gaps.

The following presents responses to the U.S. EPA's comments consistent with the revisions to the Work Plan dated July 9, 2012.

**U.S. EPA Comment #1**

***The Work Plan describes additional RI activities that will be conducted to partially address EPA comments on the draft RI report. With respect to additional monitoring wells to be installed, the Work Plan does not present information regarding the proposed well screen depths and the associated rationale for selecting the screen depths. The Work Plan must be modified to include such information.***

**Response**

Monitoring wells MW-20, MW-21S, MW-22, and MW-23 (see Response to U.S. EPA Comment #3 regarding this well) will be constructed with 7-foot screens set to straddle the water table. Each screen will be positioned such that three feet of the screen is above the water table and four feet of the screen is below the water table. The selection of the screened interval is based on the objective to monitor the water table and provide additional information regarding groundwater flow across the shallow groundwater at the Site.

Monitoring wells MW-4D, MW-12D and MW-21D will be constructed with 5-foot screens set at the top of the underlying native silt and clay, or from approximately 25 to 32 feet below ground surface (bgs), whichever is shallower. The selection of the screened intervals are based on the observed geologic conditions in these areas during previous subsurface investigations and anticipated geology, and maintaining an approximate 10 to 15 feet of separation between the screened intervals of the corresponding shallow/water table wells at each location.

The Work Plan has been modified to include this information.

**U.S. EPA Comment #2**

***Section 1.0, Page 2, Bullet 1. The text states that groundwater sample analysis will include amenable cyanide. Because previous RI sample analysis did not include amenable cyanide, the Work Plan must be revised to provide appropriate information regarding the analytical method to be used or reference the appropriate section of the Multi-Area QAPP if this analysis was performed for samples collected at any of the other Kalamazoo River operable units (OU).***

**Response**

Analytical method information for amenable cyanide analysis for groundwater is presented in QAPP Worksheets #19 and #23 of the Multi-Area QAPP dated September 23, 2009. It should be noted that QAPP Worksheet #19 references Standard Operating Procedure (SOP) reference W-25 within QAPP Worksheet #23, which is a typographical error. SOP reference W-25 is for Synthetic

Precipitation Leaching Procedure and not cyanide. The correct reference for cyanide is SOP reference W-24, which is for Cyanide, Total. This also includes a typographical error, as SOP reference W-24 should include both Cyanide, Total and Cyanide, Amenable. The methods and procedures are the same for both analysis.

Amenable cyanide analysis for groundwater samples is proposed due to the fact that the Part 201 groundwater cleanup criteria is comparable to amenable cyanide and not total cyanide, as identified in Footnote P of the MDEQ-RD's *Footnotes for Part 201 Criteria and Part 213 Risk-Based Screening Levels* (March 25, 2011). Footnote P identifies "Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Nonresidential direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas."

**U.S. EPA Comment #3**

*Section 2.2, Pages 3 and 4. This section discusses additional staff gauges and monitoring wells to be installed. Similar to EPA's prior comment requiring a downgradient well from the coal tunnel (placement of well MW-2 in relationship to the coal tunnel and the need to install a new downgradient well, MW-22), the same holds true for the relationship between MW-19 and the 200,000 gallon above ground storage tank (AST). Therefore, an additional downgradient well should be installed to the west of the AST to assess potential impacts to groundwater downgradient of the AST. In addition, because the rationale for installing additional wells provided on Page 3 includes "evaluating the potential venting to surface water" and "the need for additional monitoring wells where groundwater passes beneath the site property lines," all newly proposed wells should be sampled during the June sampling event. The Work Plan must be revised to include these modifications.*

**Response**

The Work Plan has been revised to include an additional monitoring well, MW-23, downgradient of the 200,000-gallon fuel oil AST. Additionally, the Work Plan has been revised to include sampling of all newly installed monitoring wells during the next sampling event, which is anticipated to occur in July 2012.

U.S. EPA Comment #4

*Section 2.3, Pages 4 and 5. Section 2.3 presents an evaluation of chromium speciation. EPA acknowledges that the maximum detected concentration of 102 milligrams per kilogram (mg/kg) for total chromium in soil at the site is less than the Michigan Department of Environmental Quality (MDEQ) Part 201 Generic Residential Cleanup Criteria and Screening Levels for hexavalent chromium (MDEQ Part 201 criteria). However, 102 mg/kg significantly exceeds the EPA Regional Screening Level (RSL) for hexavalent chromium in residential soil of 0.21 mg/kg. It appears that the difference between the MDEQ Part 201criteria and EPA RSL for hexavalent chromium is due in large part to differences between the toxicological factors for hexavalent chromium used. In particular, for the purposes of calculating soil RSLs, EPA adopted the oral slope factor developed by the New Jersey Department of Environmental Protection (NJDEP), while for the purposes of calculating Part 201 criteria, MDEQ assumed hexavalent chromium is not an oral carcinogen.*

*EPA recognizes that hexavalent chromium was not identified as a chemical of potential concern (COPC) in soil at the site. Nonetheless, because EPA's residential soil RSL is much lower than the MDEQ Part 201 hexavalent chromium criteria, it is likely to prove useful in the future to analyze at least a limited number of soil samples for hexavalent chromium, in order to show the public the possible risk resulting from use of the lower EPA RSL value. Therefore, EPA recommends collection of a limited number of soil samples (a minimum of eight to 10) generally from areas of highest detected chromium in soil.*

Response

The revised Work Plan includes the collection and analysis of soil samples for chromium speciation. The samples will be collected from adjacent to the RI sample locations that exhibited the highest chromium concentrations for each redevelopment area as identified in the revised Work Plan.

U.S. EPA Comment #5

*Section 2.5, Page 6, Paragraph 4. The text states that verification sampling will proceed in accordance with applicable MDEQ guidance. The text should be revised to include a citation to a specific guidance document, and a reference should be included at the end of the Work Plan. In addition, this paragraph notes that sample analytical parameters include target analyte list (TAL) metals. The RI in 2010 included analysis of samples for total cyanide. The text should specify total cyanide as an analytical parameter, or indicate if total cyanide is one of the TAL metals. Also, it is not clear whether amenable cyanide will be an analytical parameter included in the sample analysis. The text should clarify this.*

**Response**

The revised Work Plan has been modified to include a reference to the MDEQ's *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria* (MDEQ – Remediation and Redevelopment Division, 2002).

The activities proposed in this section of the Work Plan were implemented on May 11, 2012, based on approval provided by U.S. EPA via email on March 28, 2012. Seven soil samples, including two floor and four sidewall samples (with one duplicate and matrix spike/matrix spike duplicate), were collected for laboratory analysis for polynuclear aromatic hydrocarbons (PNAs) and TAL metals (not including total or amenable cyanide) based on the detected constituents identified above the Part 201 Non-Residential Cleanup Criteria. Based on the results of the soil samples collected on May 11, 2012, arsenic was present at concentrations above the Part 201 Non-Residential Direct Contact Criteria (DCC). As such, additional investigation in this area is proposed to further delineation the extent of the arsenic impacts prior to further excavation and off-Site disposal. A total of 16 soil borings to a depth of 5 feet bgs are proposed to further evaluate this area, as discussed in the revised Work Plan. Soil samples will be analyzed for PNAs and TAL metals, consistent with prior exceedances identified in the impacted materials in this area.

**U.S. EPA Comment #6**

***Section 4.0, Page 9, Paragraph 2.*** ***The text states that CRA will prepare an addendum to the RI report to present new data. In addition to addressing any changes to the RI report, the text should be revised to state that the data report will provide recommendations and conclusions on any changes to the HHRA and SLERA conclusions as well.***

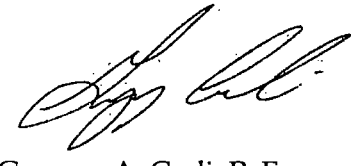
**Response**

The revised Work Plan has been modified to indicate that recommendations and conclusions related to changes to the Human Health Risk Assessment (HHRA) or Screening Level Ecological Risk Assessment (SLERA) will be included in the Addendum to the RI.

Should you have any questions with regard to this letter, please do not hesitate to contact the undersigned.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES



Gregory A. Carli, P. E.

GAC/JQ/ds/14/Pwl.
Encl.

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